SIEMENS

MEMOSKOP 2/3/50/100/SUB

SP

Service Instructions

in connection with
SIREMOBIL 2000
UROSKOP D1/D2
LITHOSTAR Multiline

English
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Safety notes

Always switch the system off when performing work on the Memoskop.

Documentation required

This document RX57-029.061.01..applies to SIREMOBIL 2000, LITHOSTAR Multiline and UROSKOP D1/D2.

MEMOSKOP

- MEMOSKOP 2 X2146
- MEMOSKOP 3/50/(100) and SUB 2000 X2009

SIREMOBIL 2000

- Service instructions RR2-120.061.02..

LITHOSTAR Multiline

- Setting the software parameters RXL2-120.032.02..
- Service software control RXL2-120.113.01..

Uroskop D1/D2

- Handling service software RLL5-310.113.02..
- Calling up the set-up mode (see page 5-1)

Measurement instruments, auxiliary devices and tools required

- Digital multimeter Fluke 8060A 97 02 101 Y4290
- Service PC
- Service tool kit
- MEMOSKOP keyboard 11 02 669 X2009
- Protective conductor meter 44 15 899 RV090
- Serial PC connection cable for service PC 99 00 440 RE999

Protective conductor test

After finishing all work steps and attaching all covers, perform the protective conductor test according to ARTD-002.731.16.
The protective conductor resistance must not exceed 0.2 Ω.

- When working on parts connected to line voltage, there is the risk of electric shock.
- To comply with EMC regulations, PC board shielding must be installed properly.
- Always switch the system off or disconnect the power plug prior to removing the covers.

Removing the covers

SIREMOBIL 2000

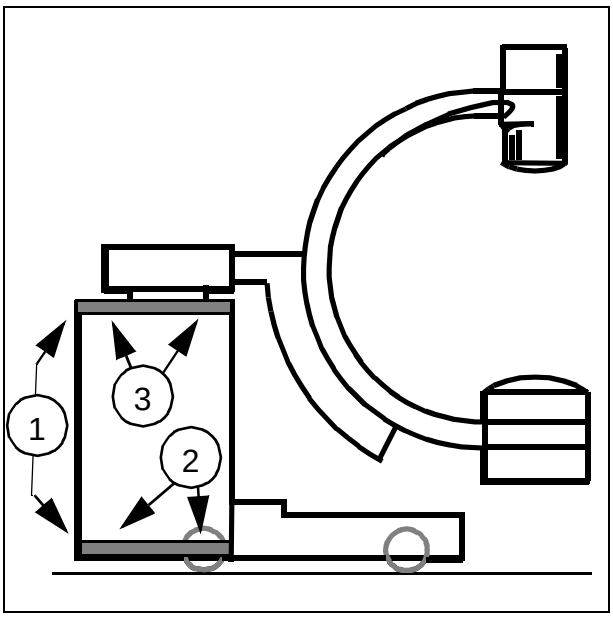

Fig. 1

Basic unit back cover

- Lock the foot brake.
- Switch off the system and disconnect it from the line voltage.
- Using the Allen key, remove the three screws in the rubber strip (1/Fig. 1).
- Hold the cover at the bottom and pull it back.
- Hold the cover at the bottom and pull it downward.
- Holding the cover at the top, pull up and to the back to remove it.
- Remove the protective conductor and retighten the protective conductor screw slightly.

Basic unit side cover

- First remove the rear cover.
- Remove the screws from the rubber strip (2/Fig.1).
- Loosen the screws on the top (3/Fig.1).
- Remove the cover toward the side.
- Remove the protective conductor and retighten the screw slightly.

Rear cover of the SM2000 monitor trolley

- Remove the cover screws.
- Remove the protective conductor.

LITHOSTAR Multiline and UROSKOP D1/D2

- Switch the system off and disconnect it from the line voltage.
- After removing the screws, detach the front cover of the unit cabinet.
- Remove the protective conductor.

Attaching the covers

- After all service work is complete, reattach the covers as described under "Removing the covers" , but proceed in the reverse order.
- Realign the contact springs of the basic unit covers with the edges of the cover panels (SIREMOBIL 2000 only).
- Ensure that the protective conductors are properly connected.

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Requirements

The requirements described in Chapter 1 of these instructions apply to maintenance as well.

Visual inspection

- Check the whole system for damage and secure mountings.

Electrical safety

- Check that warning labels are complete and in good condition. Replace them, if necessary.
- Check cables and connectors for damage. Replace them, if necessary.

CAUTION	**The protective conductor test is part of the safety inspection and should be performed when maintenance work is complete and the system is closed. Refer to "Final steps".**

Cleaning

- Clean the fan.
- Remove any dust or dirt.

Functional inspection

- Perform a functional check and image quality test in accordance with the associated documentation (diagnostic test, IQ binder).

Final steps

- With the system/unit closed, perform a protective conductor test.

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Perform download

with SIREMOBIL 2000

- Refer to chapter 4 of the Service instructions, RR2-120.061.02.

with LITHOSTAR MULTILINE

- Refer to chapter 3 in Operating Service software , RXL2-120.113.01.

with UROSKOP D1/D2

- Refer to chapter 11 in Operating Service software, RLL5-310.113.02.

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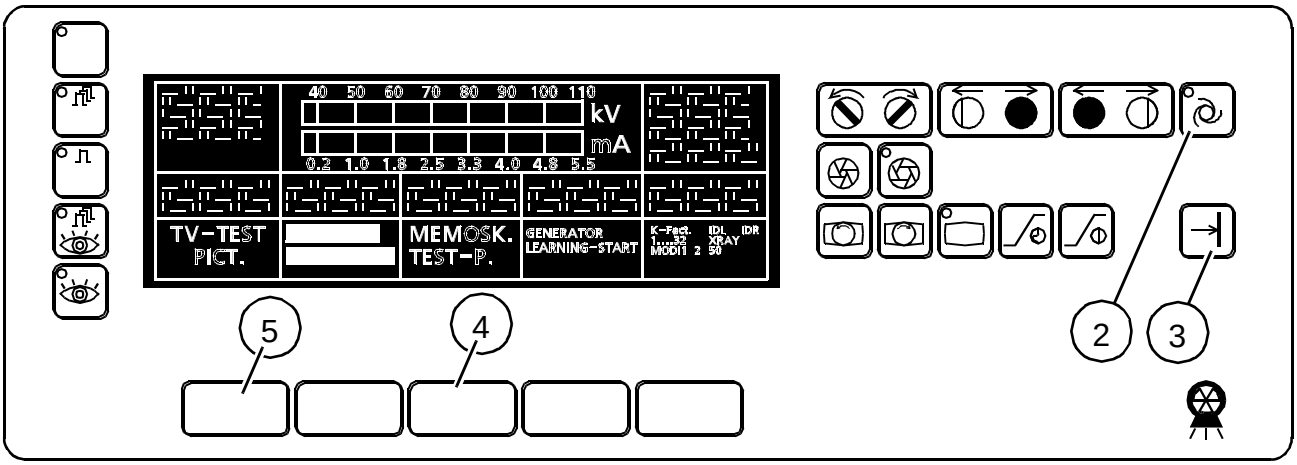


Fig. 1

SIREMOBIL 2000

- Switch the system "ON"

Calling up the memory and TV test images

- Press and hold the following buttons on the SIREMOBIL control console in the sequence shown:
  1. ATB (manual image release) button on the hand switch,
  2. Button (2/Fig.1) on the control console,
  3. and multiformat camera release button (3/Fig.1)
     The "internal service menu" is displayed on the control console (Fig.1).
- After approx. 1 second, release all the buttons.

Memory test images on SIREMOBIL 2000

- Press the third button (soft key, 4/Fig. 1) on the control console and wait until a memory test image is reconstructed (approx. 15 seconds).
- Page through the memory test images by pressing the third soft key (4/Fig.1).
- You can exit the service menu by pressing the same key combination as for calling up the service menu.

LITHOSTAR Multiline

- Call up the LITHOSTAR Multiline service menu.
  Refer to "Setting the software parameters" RXL2-120.032.02...

UROSKOP D1/D2

- Switch the system "ON"
- Wait for the MEMOSKOP to boot.

Activate set-up mode

NOTICE	**<x> means: press key x. <CTRL> + <E> means: press and hold <CTRL> and simultaneously press key <E>.**

- Press the following keys on the keyboard in sequence:
  - <NEXT PAT>
  - <@>
  - <%>
  - <CTRL> + <S>
    After activating set-up mode, a sequence of numbers is displayed in the lower image region of the monitor.
- To call up the test images, overwrite this sequence of numbers.
- Enter the number sequence without any blanks.
  Depending on the test image, reconstruction may take up to 30 seconds.

Test images:

- SMPTE-similar test image	0000 8808 0A030**3C F**00
- Gray wedge horizontal	0000 8808 0A030**21 C**00
- Black/white step	0000 8808 0A030**23 C**00
- Gray scale 0%-100%(linear)	0000 8808 0A030**25 C**00
- Gray scale 0%-100% (exponential)	0000 8808 0A030**26 C**00
- Black 0%	0000 8808 0A030**27 C**00
- Vertical white bar 60%	0000 8808 0A030**28 C**00

- Press keys <CTRL> + <E>.

Exit set-up mode

- Switch the system "OFF" and back "ON" again.
  The memory returns to normal operating mode.

SIREMOBIL 2000

- For the configuration of the **MEMOSKOP 3/50/(100)**
  refer to chapter 5 of the service instructions RR2-120.061.02.. .
- For the configuration of the **MEMOSKOP SUB 2000**
  refer to chapter 5 of the service instructions RR2-120.061.02.. .

UROSKOP D1/D2

- For the configuration of the Memoskop 50 / (100)

CAUTION	**If PC board D18 on MEMOSKOP 2K or PC board D1 or D2 on MEMOSKOP 50/(100) is replaced, a download of the MEMOSKOP software must be performed on UROSKOP.** **If PC board D1 is being replaced in MEMOSKOP 50/(100), the MEMOSKOP must be configured additionally via the keyboard.**

- Switch the system "ON"
- Wait for the MEMOSKOP to boot.

Activate set-up mode

NOTE	**<x> means: press key x.** **<CTRL> + <E> means: press and hold <CTRL> and simultaneously press key <E>.**

- Actuate the following keys on the keyboard in sequence:
  - <NEXT PAT>
  - <@>
  - <%>
  - <CTRL> + <S>
- After activating set-up mode, a sequence of numbers is displayed in the lower region of the monitor image.
- Enter the values indicated for the relevant TV system on the keyboard:
  - for TV systems with 60Hz and 120 Hz memory output:
    02 00 66 08 FE FF FF 01 02 32 63 63
  - for TV systems with 50 Hz and 100 Hz memory output:
    02 00 66 08 FF FF FF 01 02 32 63 63
- Enter the numbers without any blanks.
- Press the keys <CTRL> + <E>.

Exit set-up mode

- Switch the system "OFF" and "ON" again.
  The memory returns to normal operating mode.

LITHOSTAR Multiline

- For the configuration of **Memoskop 3 / (100)**
  refer to "Setting the software parameters" RXL2-120.032.02...

For MEMOSKOP 3 / 50 / (100) / SUB 2000

Opening the MEMOSKOP

CAUTION	Observe ESD regulations.

- Open the EMC cover over the plugboard on board D1.
- Remove the plugs.
- Remove all the screws of the EMC cover.
- Remove the self-adhesive copper foil within the plugboard from the EMC cover.
- Remove the power plug.
- Detach the EMC cover.

Closing the MEMOSKOP

- Place the EMC cover on the MEMOSKOP.
- Reinsert and connect all plugs.
- Reattach the EMC cover with the screws.
- Reattach the self-adhesive copper foil to the EMC cover.
- Close the EMC cover.
  Ensure that the cable shielding makes proper contact with the contact strip of the EMC cover.

Replacing memory board D1

- Remove the screws on the two tilt levers of board D1.
- Press board D1 with the two tilt levers upwards and remove it.
- Insert the new board.
- Tilt down the lever and reinsert the screws.
- Reconnect the plug.

Additional work, depending on the specific system:

- Update the customer data in the bottom line.
  Procedure:
  - Actuate the text entry button and move the cursor to the "hospital line" (lowest line) using the arrow keys.
  - Update the customer data.
  - After entering all the customer data, move the cursor out of the hospital line using the arrow key.
- Switch off the system.
  The customer data is now stored automatically in the Memoskop.
- For **SIREMOBIL 2000:**
  - Perform Download according to chapter 6 of the instructions RR2-120.061.02.. .
  - Perform Configuration according to chapter 5 of the instructions RR2-120.061.02...

- For **LITHOSTAR Multiline**
  - Perform Download according to the instructions RXL2-120.113.01...
  - Perform Configuration according to the instructions RXL2-120.032.02...
- For **UROSKOP D1/D2**
  - Perform Download according to the instructions RLL5-310.113.02...
  - Perform Configuration according to page 5-1 of these instructions.

For MEMOSKOP 50

Replacing board D2 (memory with SCSI)

- Remove the attachment screws on the two tilt levers of the D2 board.
- Remove board D2.
- When removing board D2, be careful not to damage the flat ribbon cable.
- Tilt the lever down on the flat ribbon cable plug and remove the plug.
- Connect the plug to the new board.
- Insert the new D2 board and reattach the tilt levers.

Additional work, depending on the specific system

- On **SIREMOBIL 2000**
  Perform Download according to the instructions RR2-120.061.02...
- On **LITHOSTAR Multiline**
  Perform Download according to the instructions RXL2-120.113.01...
- On **UROSKOP D1/D2**
  Perform Download according to the instructions RLL5-310.113.02...

For MEMOSKOP 3

Replacing board D21 (memory without SCSI)

- Open the MEMOSKOP.
- Remove the screws on the two tilt levers of the D21.
- Remove board D21, insert the new board and reattach the tilt levers.
- No service work is necessary.
- Close the MEMOSKOP.

For MEMOSKOP SUB 2000

Replacing board D22

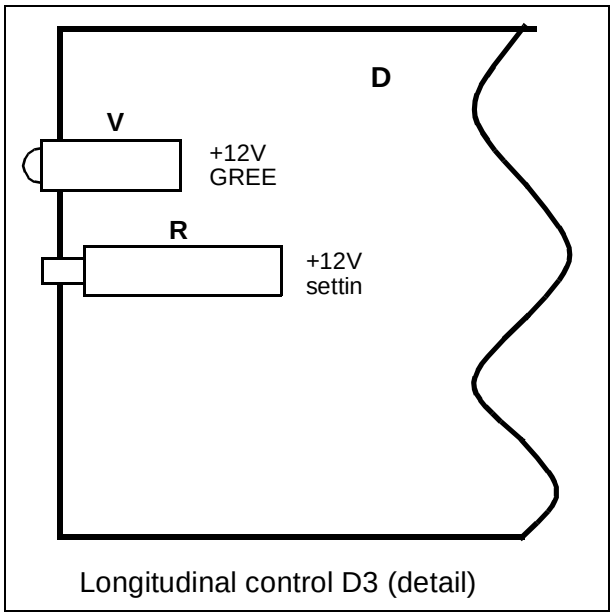
- Open the MEMOSKOP.
- Remove the screws on the two tilt levers of the D22.
- Remove board D22; be careful not to damage the flat ribbon cable.
- Tilt the lever down on the plug of the flat ribbon cable and remove the plug.
- Remove board D23 from the old D22 and insert in the new D22.
- Reinsert the new D22 and reconnect the flat ribbon cable.
- Reattach the screws of the two tilt levers.

Additional work

- On **SIREMOBIL 2000**
  Perform Download according to the instructions RR2-120.061.02...

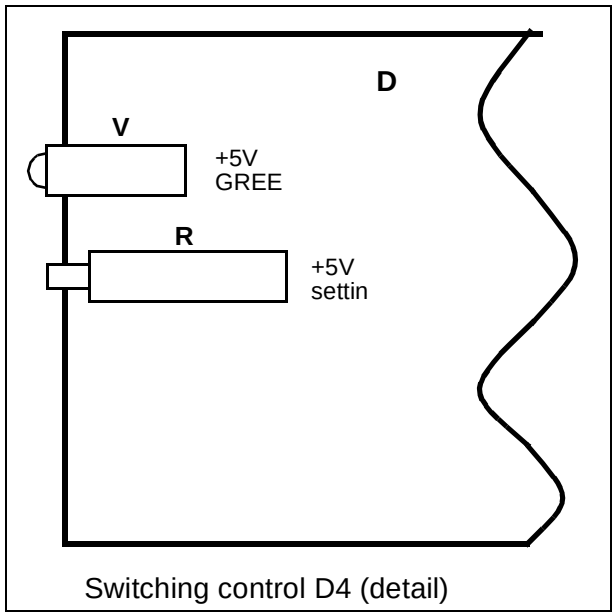
Replacing board D23

- Remove board D22 as described under ”Replacing board D22, MEMOSKOP SUB 100”.
- Remove board D23 from board D22.
- Remove all plug connections.
- Attach the new D23 board.
- Reinstall all plug connections.
- Reinsert D22 without damaging the flat ribbon cable.
- Close the MEMOSKOP.



Longitudinal control D3 (detail)

Fig. 1



Switching control D4 (detail)

Fig. 2

MEMOSKOP 50 and MEMOSKOP SUB 2000

Replacing the longitudinal control D3 (12 V, Fig. 1)

- Open the MEMOSKOP.
- Remove the large cover from MEMOSKOP.
- Remove longitudinal control D3.
- Insert the new longitudinal control.
- No additional adjustments are necessary.
- Reattach the cover with the screws.
- Close the MEMOSKOP.

Replacement of switching control D4 (5 V, Fig. 2)

- Open the MEMOSKOP.
- Remove the large cover from the MEMOSKOP.
- Remove switching control D4.
- Insert the new switching control.
- No additional adjustments are necessary.
- Reattach the cover with the screws.
- Close the MEMOSKOP.

Replacement of disk drive MS1

- Open the MEMOSKOP.
- Remove the large cover from MEMOSKOP.
- Remove the disk drive.
- Disconnect the plug.
- Remove the metal holder from the drive.

CAUTION **Do not lose the spacers. They are required when installing the disk drive to provide insulation.**

- Insert jumpers according to the table.
- Attach the metal holder including spacers to the new drive.
- Connect the plug to the new drive.
- Insert the new drive in the location of the old one.
  The drive must not contact any of the other components.
- Reattach the cover.
- Close the MEMOSKOP.

Labeling					
Quantum LPS, ELS, FB		Seagate *3) ST 31 250 N		Seagate *3 ST 51 080 N	
-A0	open	J4 Jumper 7-8	open	J8 Jumper 5-6	open
A1	jumpered	J4 Jumper 9-10	jumpered	J8 Jumper 3-4	jumpered
A2	jumpered	J4 Jumper 11-12	jumpered	J8 Jumper 1-2	jumpered
SS *1)	open	J1 Jumper 1-2	jumpered	J8 Jumper 23-24	jumpered
EP *1)	open	J1 Jumper 5-6	jumpered	J8 Jumper 28-30 *2)	jumpered
WS *1)	open	J2 Jumper 5-6	jumpered	J8 Jumper 32-34 *2)	jumpered
TE *1)	jumpered				
PK *1)	open				
All other existing jumpers remain open					

*1) If applicable

*2) Substitute jumper, if applicable

*3) Software VA07A must be loaded in the MEMOSKOP.

For MEMOSKOP 2/2K

Replacing memory board D17

CAUTION	***Observe ESD regulations.***

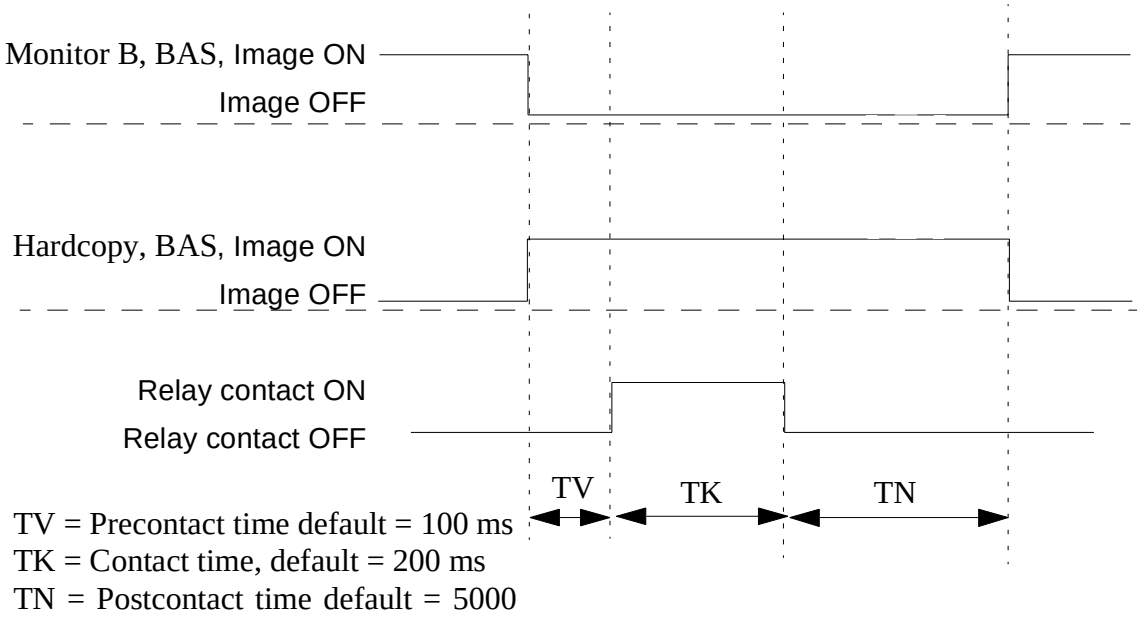
- On SIREMOBIL 2000
  Replace board D17 according to chapter 6 of the instructions RR2-120.061.02.
- On **UROSKOP D1**
  - Replace board D17.
  - No additional service work is necessary.

Replacing interface board D18

- On **SIREMOBIL 2000**
  Replace board D18 according to chapter 6 of the instructions RR2-120.061.02.
- On **UROSKOP D1**
  - Replace board D18.
  - Perform Download according to the instructions RLL5-310.113.02.

Timing diagram

This timing diagram is for reference only.



TV = Precontact time default = 100 ms
TK = Contact time, default = 200 ms
TN = Postcontact time default = 5000

Changing the times

Notice **Adhere to the manufacturer's instructions for the particular camera being used.**

Prerequisites

Input can only be done if there is a MEMOSKOP keyboard on hand.

The values will only be displayed if there is a text module. However, "blind" programming can also be done.

For UROSKOP and Multiline, plug D1.X6 on the MEMOSKOP must be removed when programming the times.

Opening Setup

- Press the [NEXT PAT] key.
- Next, press the [@] and [%] keys in sequence .
- Press the [CTRL] + [S] keys simultaneously.
- A list of numbers will be displayed on the monitor.

Changing the precontact time TV

- Enter the following : 00006506 **
  ** means in HEX code: 01 = 100 ms, 02 = 200 ms, 32 = 5000 ms.
- Then press the [CTRL] + [E] keys simultaneously.
- Then, depending on the requirement, program the contact time TK and/or postcontact time TN or exit the Hardcopy Setup (refer to the section "Exit Setup ").

Changing the contact time TK

- Enter the following numbers: 00006508 **
  ** means in HEX code: 01 = 100 ms, 02 = 200 ms, 32 = 5000 ms.
- Then press the [CTRL] + [E] keys simultaneously.
- Then, depending on the requirement, program the precontact time TV and/or the postcontact time TN or exit the Hardcopy Setup (refer to the section "Exit Setup ").

Changing the postcontact time TN

- Enter the following numbers: 0000650A **
  ** means in HEX code: 01 = 100 ms, 02 = 200 ms, 32 = 5000 ms
- Then press the [CTRL] + [E] keys simultaneously.
- Then, depending on the requirement, program the precontact time TV and/or the contact time TK or exit the Hardcopy Setup (refer to the section "Exit Setup ").

Exit Setup

- Press the [@] and [%] keys in sequence.
- Switch the unit off and then back on.
  After switching the unit back on, the new Hardcopy timing will be valid.
- If plug D1.X6 was removed from the MEMOSKOP, reconnect it.

Video timing

Hardcopy Output, 525 / 60 Hz, MEMOSKOP 3, 50, SUB

Horizontal Frequency	15,750	kHz	or		pixels
Horizontal Line Time	63,492	μsec	or	853,33	pixels
Horizontal Sync Tip	4,4643	μsec	or	60,00	pixels
Horizontal Back Porch	12,21	μsec	or	164,1	pixels
Horizontal Active Video	38,0952	μsec	or	512,00	pixels
Horizontal Front Porch	8,72	μsec	or	117,2	pixels
Horizontal Blanking	25,3968	μsec	or	341,33	pixels
Vertical Field Frequency	60,000	Hz			
Vertical Field Time	16,6667	msec	or	262,5	lines
Vertical Sync Tip	0,1905	msec	or	3,0	lines
Vertical Back Porch	1,524	msec	or	24,0(24,5)	lines
Vertical Field Active Video	14,0952	msec	or	222,0	lines
Vertical Front Porch	0,825	msec	or	13,0(13,5)	lines
Vertical Field Blanking	2,5397	msec	or	40,0(41,0)	lines
Interlaced Fields	Yes/--				
Image Circle	509 x 466 (H-pixel x V-pixel)				
Ext. Pixel Clock Frequency		MHz			
Pixel Clock Image	13,44	MHz	1 pixel = 74,404762 ns		
Pixel Clock Text	13,44	MHz			
Pixel Aspect Ratio	0,916:1	(width/height)			
Memory	512 x 444 (H-pixel x V-pixel)				

Hardcopy Output, 625 / 50 Hz, MEMOSKOP 3, 50, SUB

Horizontal Frequency	15,625	kHz	or		pixels
Horizontal Line Time	64,000	µsec	or	853,33	pixels
Horizontal Sync Tip	4,500	µsec	or	60,00	pixels
Horizontal Back Porch	12,800	µsec	or	170,67	pixels
Horizontal Active Video	38,400	µsec	or	512,00	pixels
Horizontal Front Porch	8,300	µsec	or	110,67	pixels
Horizontal Blanking	25,600	µsec	or	341,33	pixels
Vertical Field Frequency	50,000	Hz			
Vertical Field Time	20,000	msec	or	312,5	lines
Vertical Sync Tip	0,160	msec	or	2,5	lines
Vertical Back Porch	2,272	msec	or	35,5(36,0)	lines
Vertical Field Active Video	16,384	msec	or	256,0	lines
Vertical Front Porch	1,152	msec	or	18,0(18,5)	lines
Vertical Field Blanking	3,584	msec	or	56,0(57,0)	lines
Interlaced Fields	Yes/--		or		
Image Circle	496 x 548 (H-pixel x V-pixel)				
Ext. Pixel Clock Frequency		MHz			
Pixel Clock Image	13,333	MHz		1 pixel = 75 ns	
Pixel Clock Text	13,333	MHz			
Pixel Aspect Ratio	1,105:1	(width/height)			
Memory	512 x 512 (H-pixel x V-pixel)				

All chapters	all pages	Layout updated and page breaks changed.
Chapter 0		Revision level increased. Table of contents adjusted.
Chapter 1	Page 1 Page 2	Print number and item number changed. Reference to TI 236, ... in ARTD ... changed.
Chapter 4	Page 2	Print number changed.
Chapter 5	Page 2	Print number changed.
Chapter 6	Page 2 Page 5 Page 6	Print number changed. Table updated. Fig.3 removed.
Chapter 7		New chapter added.
Chapter 8	Page 1	Contents updated.

TD SD 24 / Wendt

TD SD 34 / Schlee

SMS Iselin / O'Donnell

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